[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1095; Directorate Identifier 2009-NE-40-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney (PW) Models PW4074 and PW4077 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to all PW PW4074 and PW4077 turbofan engines. The existing AD currently requires removing the 15th stage high pressure compressor (HPC) disk within 12,000 cycles since new (CSN) or using a drawdown removal plan for disks that exceed 12,000 CSN. Since we issued that AD, we received a request from an operator that we clarify our inspection schedule for 15th stage HPC disks. This proposed AD would clarify that 15th stage HPC disks that have accumulated more than 9,685 CSN require a borescope inspection (BSI) or eddy current inspection (ECI) of the disk outer rim front rail for cracks prior to accumulating 12,000 CSN. We are proposing this AD to prevent cracks from propagating into the disk bolt holes, which could result in a failure of the 15th stage HPC disk, uncontained engine failure, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-7700; fax: 860-565-1605. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7178; fax: 781-238-7199; e-mail: ian.dargin@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2010-1095; Directorate Identifier 2009-NE-40-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On June 24, 2011, we issued AD 2011-14-07, amendment 39-16742 (76 FR 47056, August 4, 2011), for all PW PW4074 and PW4077 turbofan engines with 15th stage HPC disks, part number (P/N) 55H615, installed. That AD requires removing the 15th stage HPC disk within 12,000 CSN or, for any disks that exceed 12,000 CSN after the effective date of this AD, using a drawdown plan that includes a BSI or ECI of the disk outer rim front rail for cracks. That AD resulted from multiple shop findings of cracked 15th stage HPC disks. We issued that AD to prevent cracks from propagating into the disk bolt holes, which could result in a failure of the 15th stage HPC disk, uncontained engine failure, and damage to the airplane.

Actions Since Existing AD Was Issued

Since we issued AD 2011-14-07 (76 FR 47056, August 4, 2011), we received a request from an operator that we clarify our inspection schedule for 15th stage HPC disks

that have accumulated more than 9,685, but less than 12,000 CSN, on the effective date of the AD. The operator indicated that AD 2011-14-07 did not require a BSI or ECI for 15th stage HPC disks that had more than 9,685, but less than 12,000 CSN, on the effective date of the AD. Based on the comment, we reviewed the AD and found that this new AD action was necessary to ensure that the disc was inspected before accumulating 12,000 CSN. This proposed AD would ensure that inspection will occur.

Relevant Service Information

We reviewed and approved the technical contents of Pratt & Whitney Service Bulletin (SB) PW4G-112-72-309, Revision 1, dated July 1, 2010. The SB describes procedures for performing a BSI or ECI for cracks in the front rail of the outer rim of the 15th stage HPC disk.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain all requirements of AD 2011-14-07 (76 FR 47056, August 4, 2011). This proposed AD would also clarify that 15th stage HPC disks that have accumulated more than 9,685, but less than 12,000 CSN, require a BSI or ECI of the disk outer rim front rail for cracks prior to accumulating 12,000 CSN.

Costs of Compliance

We estimate that this proposed AD would affect 44 engines installed on airplanes of U.S. registry. Prorated parts life would cost about $66,000 per 15th stage HPC disk. Based on these figures, we estimate the total cost of the proposed AD to U.S. operators to be $2,904,000. The new requirements of this proposed AD add no additional economic burden.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2011-14-07, Amendment 39-16742 (76 FR 47056, August 4, 2011), and adding the following new AD:

Pratt & Whitney: Docket No. FAA-2010-1095; Directorate Identifier 2009-NE-40-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2011-14-07, Amendment 39-16742.

(c) Applicability

This AD applies to Pratt & Whitney (PW) PW4074 and PW4077 turbofan engines with 15th stage high-pressure compressor (HPC) disks, part number (P/N) 55H615, installed.

(d) Unsafe Condition

This AD results from multiple shop findings of cracked 15th stage HPC disks. We are issuing this AD to prevent cracks from propagating into the disk bolt holes, which could result in a failure of the 15th stage HPC disk, uncontained engine failure, and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done. To perform the inspections, use paragraph 1.A. or 1.B. of the Accomplishment Instructions "For Engines Installed on the Aircraft" or 1.A. or 1.B. of the Accomplishment Instructions "For Engines Removed from the Aircraft," of PW Service Bulletin PW4G-112-72-309, Revision 1, dated July 1, 2010.

(1) For 15th stage HPC disks that have 9,865 or fewer cycles since new (CSN) on the effective date of this AD, remove the disk from service before accumulating 12,000 CSN.

(2) For 15th stage HPC disks that have accumulated more than 9,865 CSN on the effective date of this AD, do the following:

(i) Remove the disk from service at the next piece-part exposure, not to exceed 2,135 cycles-in-service (CIS) after the effective date of this AD.

(ii) Perform a borescope inspection (BSI) or eddy current inspection (ECI) of the front rail of the disk outer rim according to the following schedule:

(A) Within 2,400 cycles-since-last fluorescent penetrant inspection or ECI, or

(B) Within 1,200 cycles-since-last BSI, or

(C) Before accumulating 12,000 CSN, or

(D) Within 55 CIS after the effective date of this AD, whichever occurs latest.

(3) If the BSI from paragraph (e)(2)(ii) of this AD indicates the presence of a crack in the disk outer rim front rail, but you cannot visually confirm a crack, perform an ECI within 5 CIS after the BSI.

(4) If you confirm a crack in the front rail of the disk outer rim using any inspection method, remove the disk from service before further flight.

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(g) Related Information

(1) For more information about this AD, contact Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7178; fax: (781) 238-7199; e-mail: ian.dargin@faa.gov.

(2) Pratt & Whitney Service Bulletin PW4G-112-72-309 Revision 1, dated July 1, 2010, pertains to the subject of this AD. Contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-7700; fax: 860-565-1605, for a copy of this service information.

(3) You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 16 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on February 15, 2012.

Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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